

# The CPU Counter Box



## Latest Software.

This document refers to Counter Software 2.8 and later.

The Software Version is the first two digit number to be displayed when the Counter is reset.

Version 2.8 represents a significant step over earlier versions with a tighter battery management of both the internal 3 volt cells and the Reset Box 9 volt battery.

## Counter Features.

- Tighter Battery management with “Alarms” to flag low battery voltages.
- The 4 digit display features 'leading zero suppression' to blank irrelevant zero digits.
- The counter 'locks out' at a predetermined counter value to minimise the losses to the ground if the Counter is not returned.
- Intelligent reset circuitry makes resetting without the correct reset box almost impossible.

## The Counter in use.

The flashing least significant digit is an indication of processor activity.

When a count pulse is presented from a Claymate, or any other source, the display increments and the last digit stops flashing for 5 seconds. This makes the display easier to read and is useful to determine if the counter has, in fact, incremented if your attention is elsewhere.

## Resetting the Counter.

Insert the Counter into the Reset Box.

When the reset button is pressed the display shows FOUR, 2 digit numbers and a 4 digit number in sequence.

- A representation of the software serial number. 28 equates to version 2.8
- The next three pairs of numbers are analogues of certain resetting parameters.
- The 'lockout' count value. This is the value at which the counter will lock out. A locked out counter will show the last 2 digits flashing and requires a different technique to reset. Call Claymate!

The Reset button can be released as soon as the first set of digits appears in the display.

## Alarm Conditions.

When the Counter is reset, certain tests are carried out to determine that a valid reset box is trying to reset the counter and not a fraudulent person with a bunch of batteries and wires.

A range of voltages is measured against the internal Counter batteries and from these, a determination of all battery voltages is extracted.

Overly high or low battery voltages will raise an "Alarm Code".

The Alarm Code is displayed by an alternating pair of numbers.

The sequence continues for 10 cycles before the counter continues.

Alternating 33\_ & \_33 The Counter batteries (3 volt) are suspect. The Counter does NOT reset.

Alternating 99\_ & \_99 The Reset battery (9 volt) is suspect. The Counter is reset.

Alternating 66\_ & \_66 Unexpected voltages have been detected. The Counter does NOT reset.

Poor Counter batteries are a security issue; the Counter is not reset and you are recommended to have the batteries replaced.

The Counter batteries can be measured using a good quality meter between pins 2 & 3 on the Counter. A reading of 2.75 volts or less is reason to replace the counter batteries.

Good battery management, say measuring once a week, will ensure that Counters are not taken out of service when most needed.

Counter batteries should last in excess of 1 year.

**It is NOT the responsibility of BLN, Claymate or their representatives to manage your batteries.**

A low Reset Box battery (9 volts) is less of a problem but you should change the 9 volt battery as extended use with a low 9 volt battery will, if the battery replacement is left too long, allow the Counter batteries to drop below limits such that when you eventually do change the 9 volt battery you might be surprised that a large number of Counter batteries are then indicated as too low resulting in inconvenience for you.

The Reset battery should last 2 years or you can replace the battery at a measured 8.5 volts.

The 9 volt battery can be measured at the 11 pin socket by measuring between pins 4 & 6.

Looking at the socket, pin 1 is the first pin anti clockwise from the notch.

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